DECK PACKET

One and Two Family Dwellings

This packet of information is designed to make getting a permit to build a deck easy. With a bit of homework on your part, your deck permits can be issued quickly. Using this packet will help you determine how large the footings, beams, joists, posts, and ledgers need to be; how to build lateral bracing, stairs, and railings; and how to fasten all the pieces together.

Following the instructions in this packet will not only provide guidance in the construction of your deck but will help you pass inspections.

Table of Contents

This packet does not take into account conditions which may affect your deck design such as drainage conditions, slope conditions, or decks supporting loads in excess of the standard uniform loads. Depending upon your specific situation, you may need to hire a professional such as a contractor, architect, or structural engineer.

You may include all, or part of these drawings with your building permit application for decks that are:

- For one- and two- family dwellings
- Single-span
- All on one level
- Not supporting a hot tub or spa
- Not attached to house overhangs, bay windows, brick, stone or concrete block
- Not more than 10 feet above ground
- Not bearing on ground with a slope greater than 2 feet horizontal for every 1 foot vertical

If you have additional questions regarding this packet, our staff is available to assist you.

Planning & Development
99 W. 10th Avenue, Eugene, OR 97401
P 541.682.5086 * F 541.682.5593

Form #RB-421
Updated: February 2012

Do I Need a Permit for My Deck?

A building permit is required for all decks that are more than 30 inches above the ground at any point.

Setbacks and Other Regulations?

For information on setbacks (how close a deck is the property line) and other regulations that may apply to your deck project, check with our land use staff at 541-682-8336. Even if a building permit is not required you still must meet zoning requirements. You will also want to make sure you are not building over a Public Utility Easement (PUE). Our Public Works staff can assist you with locating PUEs on your property. They can be reached at 541-682-8400. An additional consideration for your project is underground utilities. Always call Utility Locate number at 1-800-332-2344 at least 48 hour before you dig.

What Do I Need to Apply?

You may draw all your own plans and details without using this packet, or you can use the pre-approved details in this packet to supplement your plans.

If you are using the drawings in this packet, your submittal should include the following:

- Residential Permit Application
- Site Plan – You will need to draw a site plan. Attached to this packet is an example for your use. The site plan must show the property lines, outlines of the house and proposed deck, accessory buildings or structures (shed, pool, retaining wall, etc.) contour lines and distances between the house/deck from the property lines.
- Drawings included in packet
- Manufacturer specifications for composite decking

If you are drawing your own plans and details your submittal should include all of the above ***and*** the following:

- Elevation plans
- Foundation plan
- Framing plan
- Cross Section and details

Plan Review

There are three components to the review process: Land Use, Public Works Engineering, and Building.

Land Use and Public Works Engineering will review the site plan to ensure that setbacks are met and that no construction takes place in easements. If you submit the drawings in this packet the building review will consist of confirming that the applicant understands the information and requirements outlined in this packet. If you have prepared the plans yourself the plans will be reviewed for code requirements of the Residential Structural Specialty Code.

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Occasionally circumstances will require a revision to your plans. This can happen when information provided is inadequate, incorrect, or missing. Review time for supplemental information (SI) is billed at $95.92 per hour (1/2 hour minimum). Please take the time before submitting the application for your permit to ensure the information is complete. Frequent triggers for SI include the following:

- Deviations from the drawings
- Field changes not reflected on the approved set of drawings
- Setback intrusions

The City of Eugene now has a Residential Express Permit (REP) program. This program allows you to apply for a deck permit, have your plans reviewed, and your permit issued while you wait. This service is available Tuesday and Thursday mornings from 9:00 a.m. to noon.

Fees

The building permit fee for the deck is based on the value of work. Value of work is determined by multiplying the square footage of the deck by the current adopted building valuation table for decks in the ICC Square Foot Construction Costs tables.

Depending on your project and the site conditions, other fees that may be assessed include a land use review fee, public works review fee, and an erosion prevention fee.

Inspections

The homeowner or the homeowner's agent is responsible for coordinating all inspections. Inspections are requested through an IVR (interactive voice response) system. Attached to your approved plans will be your permit that will list the required inspections for your project. Typically a deck requires the following inspections:

- Footing
- Foundation
- Framing
- Final Building

To schedule an inspection:

- Call 541-682-5282
- Enter your permit number
- Enter the three digit inspection code for the type of inspection you are requesting
- Enter a phone number where you be reached along with your name

To be safe, remember to call before you dig, and have your underground utilities located.

Oregon Utility Notification Center
811 or 1-800-332-2344

General Construction Notes

Concrete Footing	The "Design Matrix" outlines the minimum footing size for column supports. Other requirements include the following: • Footings shall bear on undisturbed soil at a minimum of 12" below finished grade • Footings adjacent to the top of a retaining wall must be set back a distance equal to the height of the wall
Lumber	Heartwood cedar and heartwood redwood (as wells as other wood species outlined in ORSC R317) may substitute for pressure treated (PT) Otherwise, PT lumber must be used – including glulam beams (See Design Matrix).
Walking Surface	The deck surface must be made of 2X4's or wider. 1 ¼ " boards may be used and must be able to withstand a 300 pound point load at the mid-span. Each span must bear on a minimum of 2 joists, and board ends must bear on joists. All boards must be attached with a minimum of two 10d nails or two #8 screws at each joint.
Composite Decking	Each manufacturer of composite decking has specific requirements including attaching joists and joist spacing. In order to obtain a deck permit, you will need to provide the manufacturer's specifications. Referencing a website does not satisfy this requirement.
Hot Tubs	If you know that a hot tub or spa will be placed on the deck, then this packet cannot be used. You will need to submit drawings and additional documents including the capacity of the hot tub and a design that supports the weight.
Freestanding Decks	Decks that are free-standing do not utilize the exterior wall of the existing house to support vertical or lateral loads. Freestanding decks are less typical then one that is attached to the house and are not covered by this packet.

Design Matrix

How to use it…

The Design Matrix outlines the structural members to use – footings, columns, beams, and joists.

- Locate the joist span and beam span that corresponds with the size of deck you wish to construct.
- Find where the row and the column intersect.
- This provides the specifications for the structural elements of the deck.

Design Matrix…				
Lumber Sizes…		Joist Span 6'	8'	10'
Beam Span 6'	Joist	2x6	2x8	2x10
	Beam	4x8	4x8	4x8
	Column	4x4	4x4	4x4
	Footing	13x13	15x15	18x18
Beam Span 8'	Joist	2x6	2x8	2x10
	Beam	4x10	4x10	4x12
	Column	4x4	4x4	4x4
	Footing	18x18	18x18	20x20
Beam Span 10'	Joist	2x6	2x8	2x10
	Beam	4x12	6x12	5.125 x 10.5 GLB
	Column	4x4	6x6	6x6
	Footing	18x18	20x20	22x22
Beam Span 12'	Joist	2x6	2x8	2x10
	Beam	3.125 x 12 GLB	5.125 x 10.5 GLB	5.125 x 12 GLB
	Column	4x4	6x6	6x6
	Footing	20x20	22x22	24x24

* All lumber is pressure treated (HF #2).

* Joists may be spaced on either 16" or 24" centers, and may cantilever 2'.

* Beams may cantilever 2' each end.

* Footings: 10" deep with #4 rebar at 12" on-center, 3" coverage minimum.

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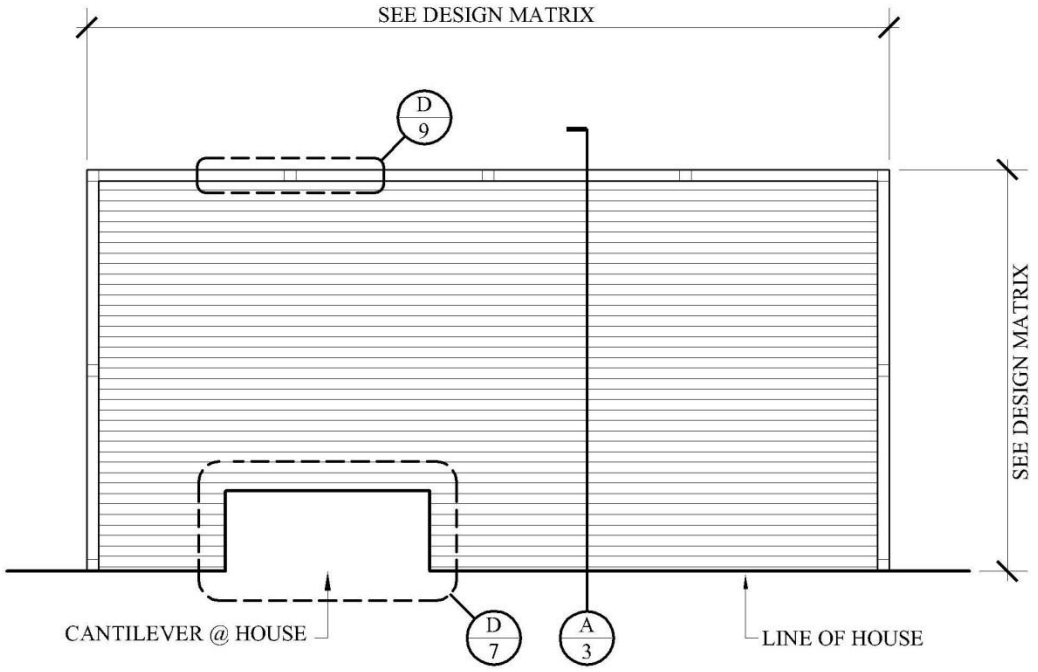
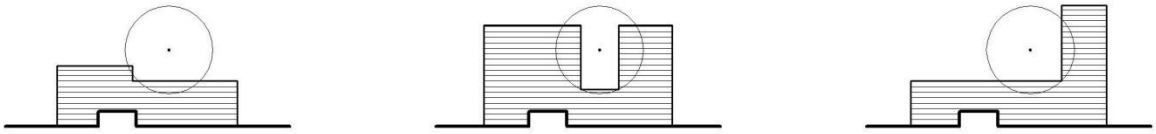
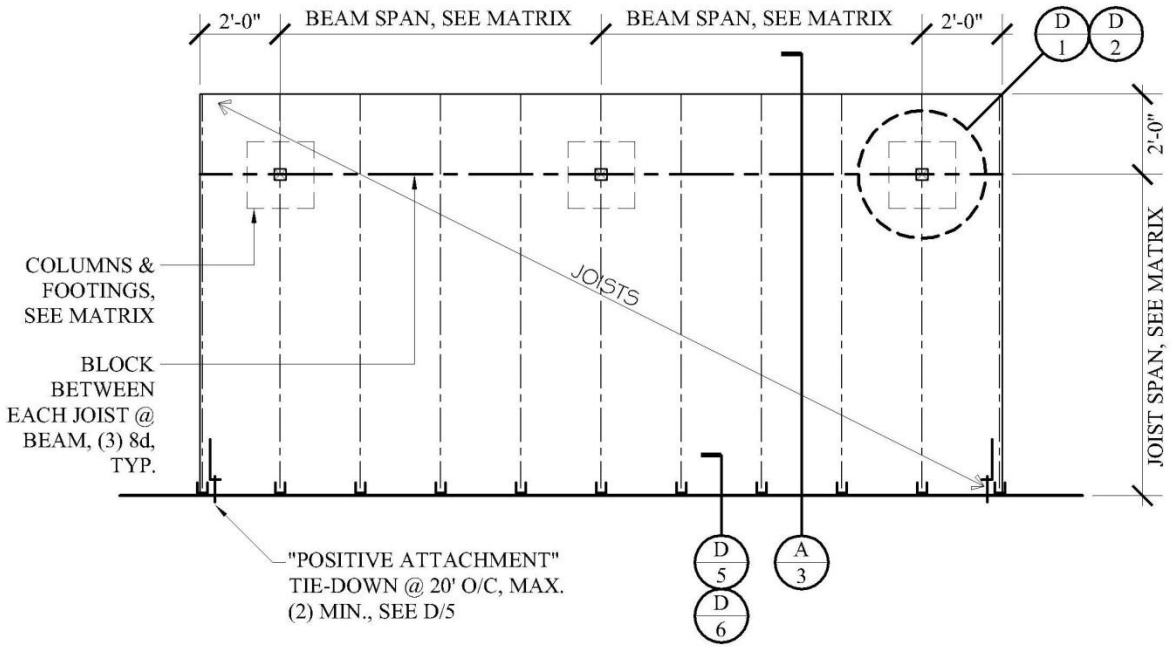




A
1

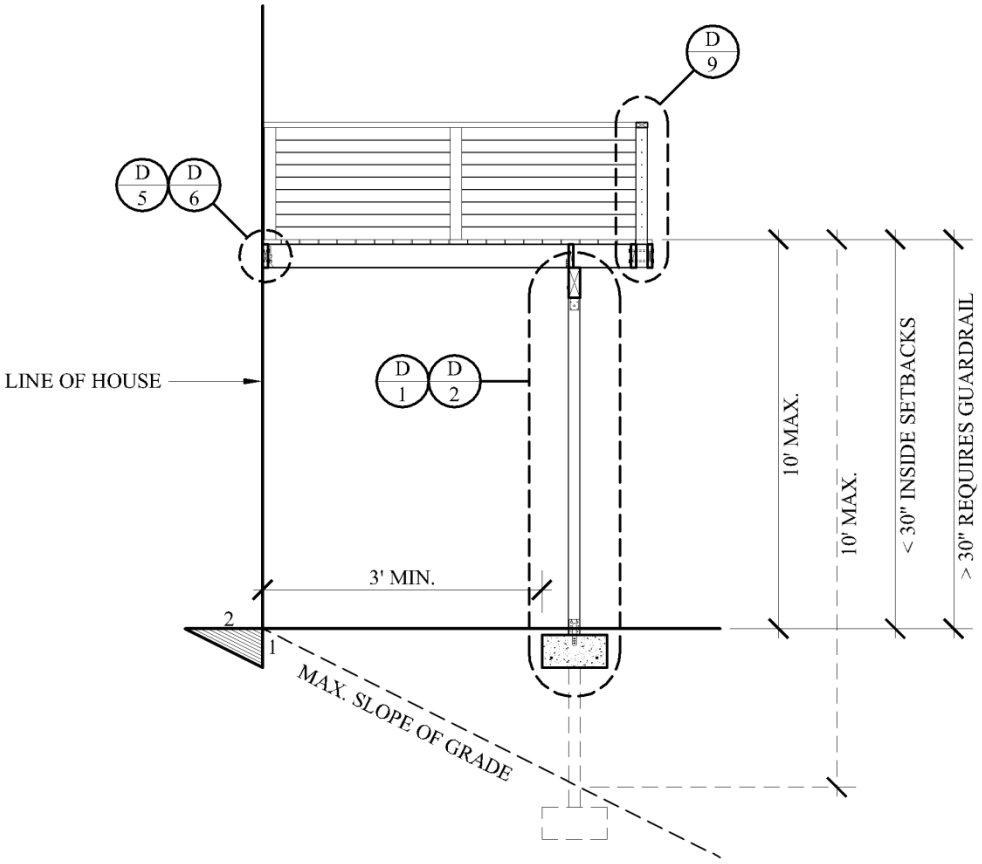
hypothetical deck plans

scale: varies



A/2 typical deck framing plan

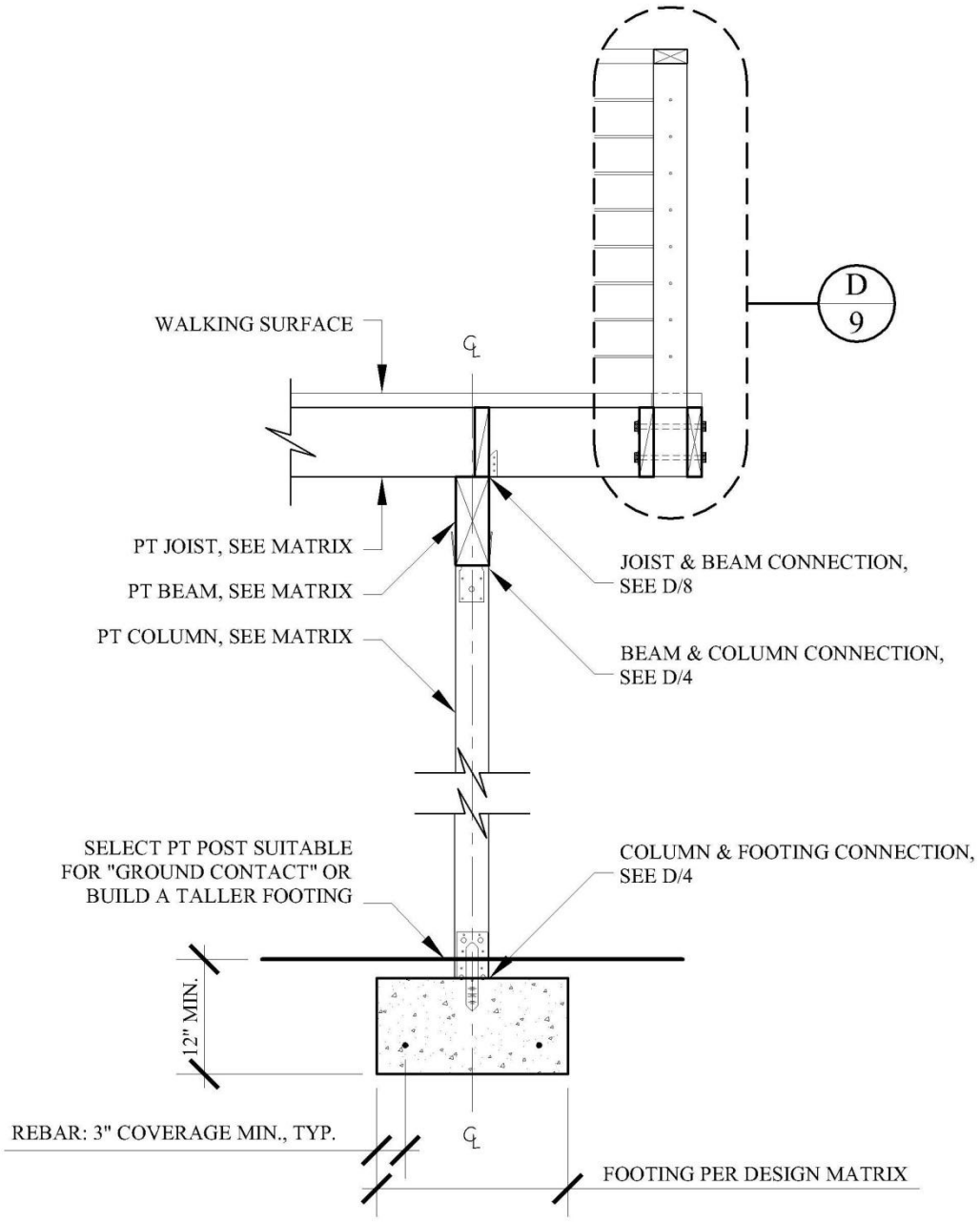
scale: ¼" = 1'-0"



A
3

deck section

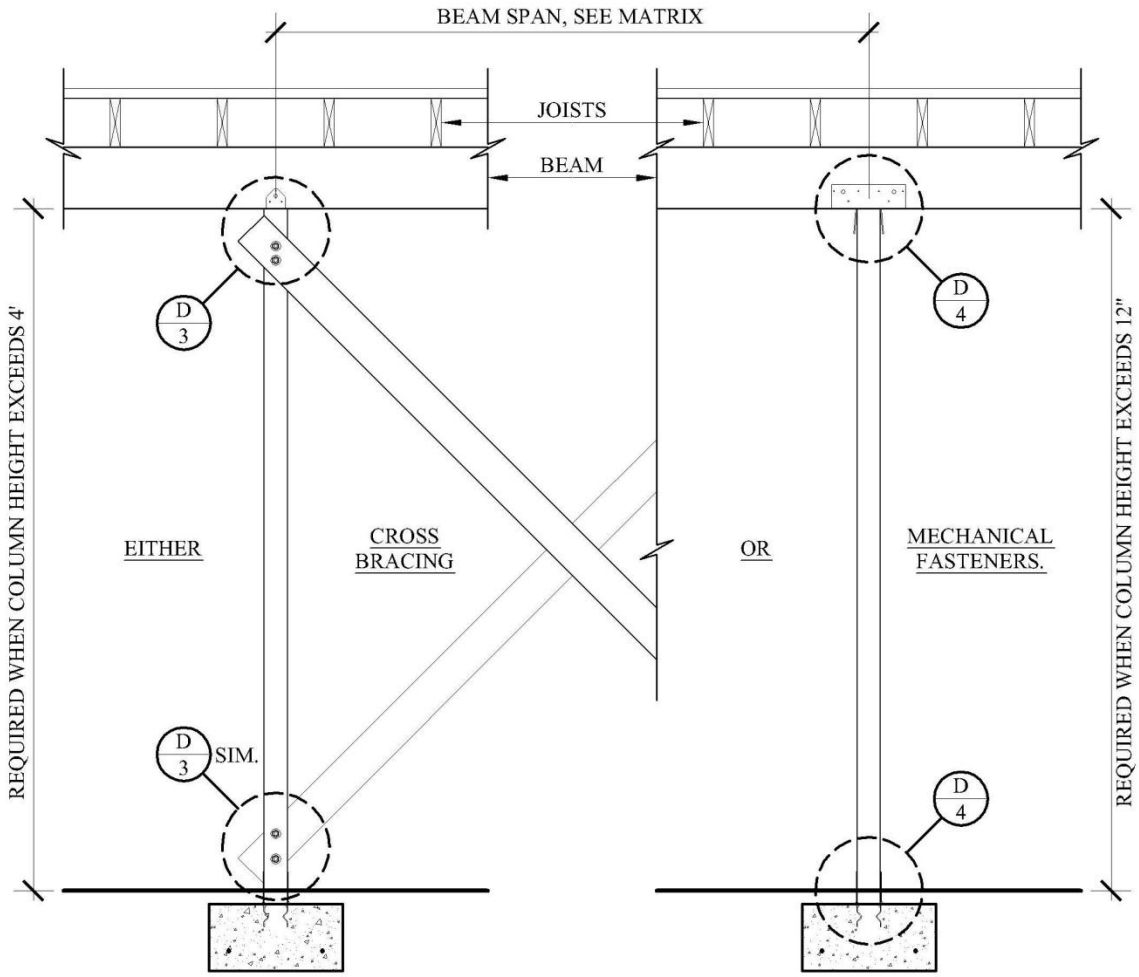
scale: Not to Scale



D
1

typical deck support

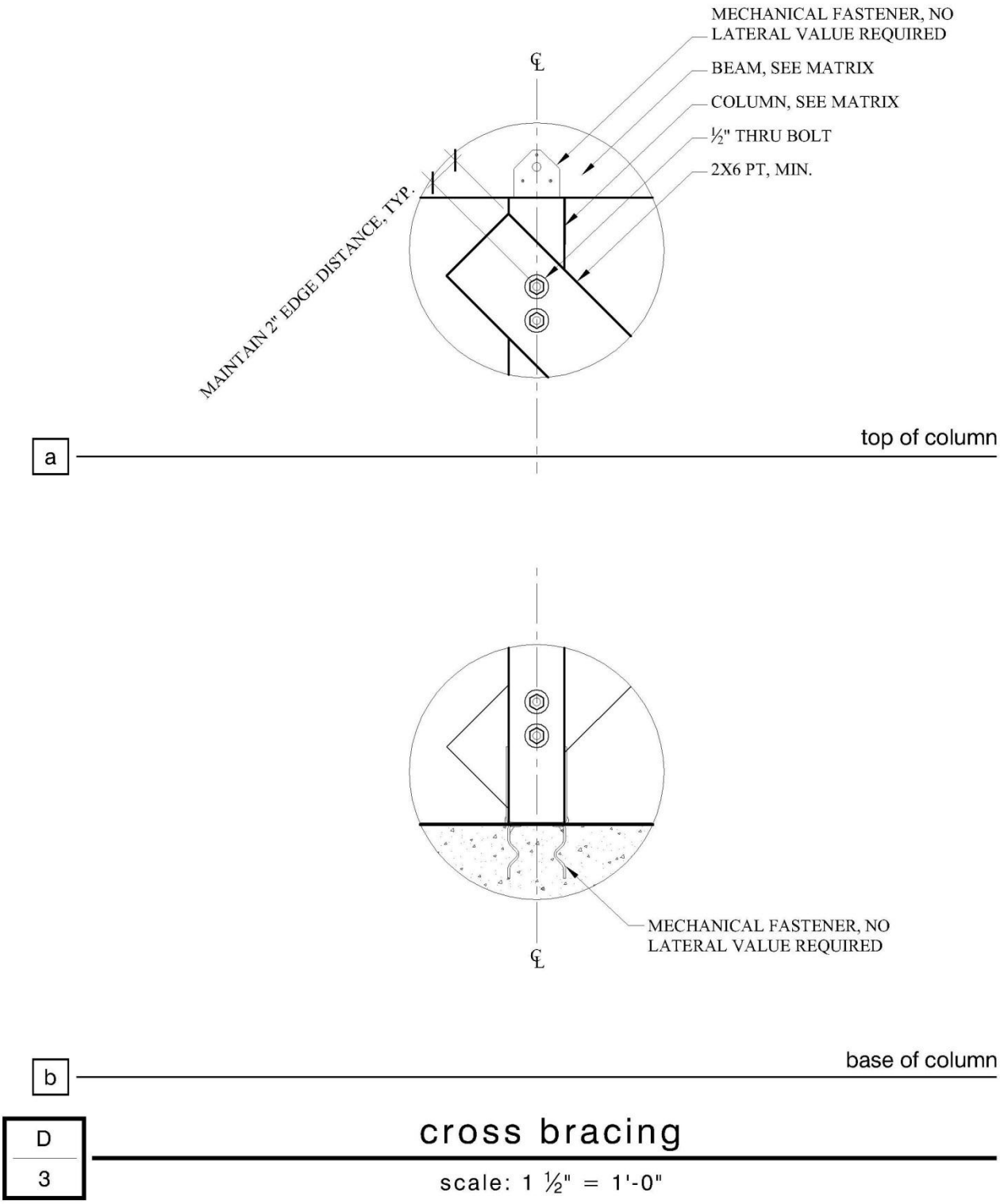
scale: ½" = 1'-0"



D / 2

typical lateral support

scale: ½" = 1'-0"



D/3

cross bracing

scale: 1 ½" = 1'-0"

ACCEPTABLE COLUMN CAPS W/LATERAL VALUES*		
MANUFACTURER	SIMPSON	USP
	AC/ACE	PBS/PBES
	BC/BCS	C
	LCE	-
	LPCZ	-
	PC/EPC	PCM/EPCM
	-	PBC
*	REFER TO MANUFACTURER SPECIFICATIONS FOR WARRANTED INSTALLATION	
*	ZMAX, HDG, OR STAINLESS STEEL (OR USP EQUIVALENTS)	

a — beam & column connection

ACCEPTABLE COLUMN BASES W/LATERAL VALUES*		
MANUF.	SIMPSON	USP
	EPB (44, 44A, 46, 66)	EPB
	PB/PBS	WE/WAS
*	INSTALL SUCH THAT LATERAL VALUES ARE MAXIMIZED	
*	REFER TO MANUFACTURER SPECIFICATIONS FOR WARRANTED INSTALLATION	
*	ZMAX, HDG, OR STAINLESS STEEL (OR USP EQUIVALENTS)	

b — column & footing connection

D/4 — lateral bracing using mechanical fasteners

scale: n/a

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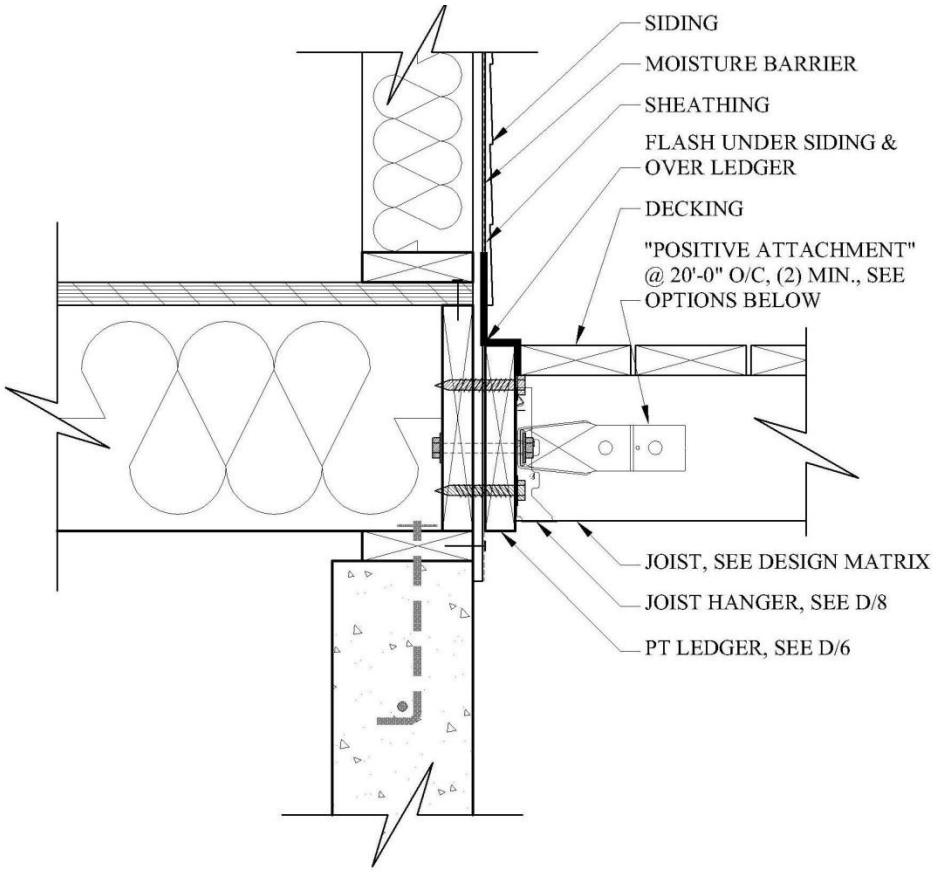

a

ACCEPTABLE "POSITIVE ATTACHMENT" FASTENERS*		
MANUFACTURER	SIMPSON	USP
	HD2A	TDX2
	HD5A	TDX5
	HD8A	TDX8
	PHD2-SDS3HDG	PHD2
	PHD5-SDS3HDG	PHD5
*	REFER TO MANUFACTURER SPECIFICATIONS FOR WARRANTED INSTALLATION	
*	ZMAX, HDG, OR STAINLESS STEEL (OR USP EQUIVALENTS)	

b

D / 5

typical ledger detail

scale: 1 ½" = 1'-0"

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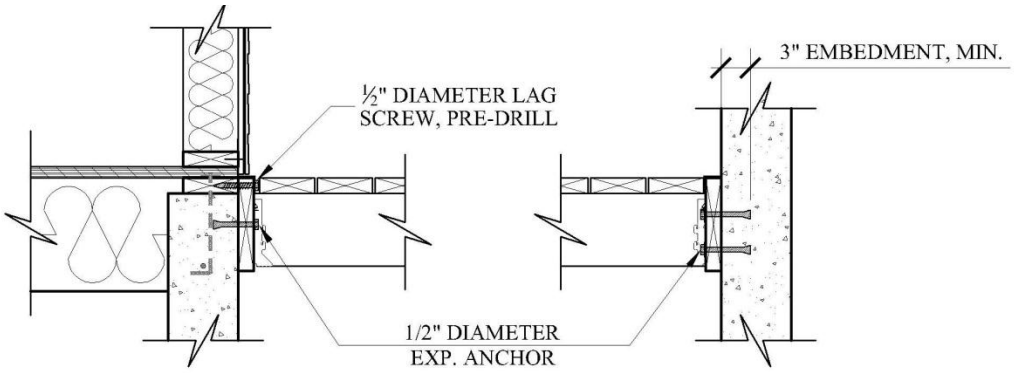
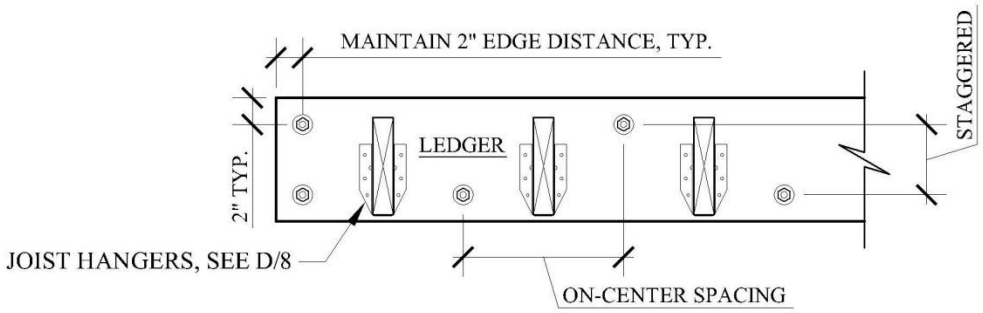


a

LEDGER FASTENER SCHEDULE*				
ON-CENTER SPACING (IN.)		JOIST SPAN 6'	8'	10'
FASTENER TYPE	½" BOLTS	14"	11"	9"
	⅝" BOLTS	15"	14"	9"
	⅜" LAG SCREWS*	9"	7"	6"
	½" LAG SCREWS	14"	11"	9"
	⅝" LAG SCREWS	19"	14"	12"
	SDS ¼" x 3 ½" OR 4 ½"*	27"	20"	16"
	#12 WOOD SCREWS*	12"	9"	7"
*	ON-CENTER & STAGGERED, SEE BELOW			
*	SMALLER THAN ½" DIAMETER REQUIRES HDG OR STAINLESS STEEL			

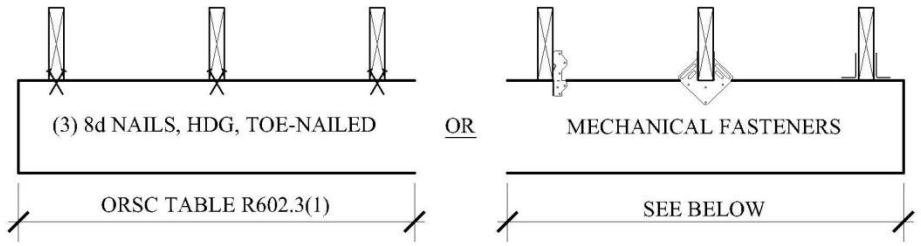
b



c

D/6 other ledger attachments & fastener schedule

scale: varies



a — joist to beam

ACCEPTABLE JOIST & BEAM CONNECTORS*		
MANUF.	SIMPSON	USP
	A35	MPA1
	H	RT
	L/LS	MP
*	REFER TO MANUFACTURER SPECIFICATIONS FOR WARRANTED INSTALLATION	
*	ZMAX, HDG, OR STAINLESS STEEL (OR USP EQUIVALENTS)	

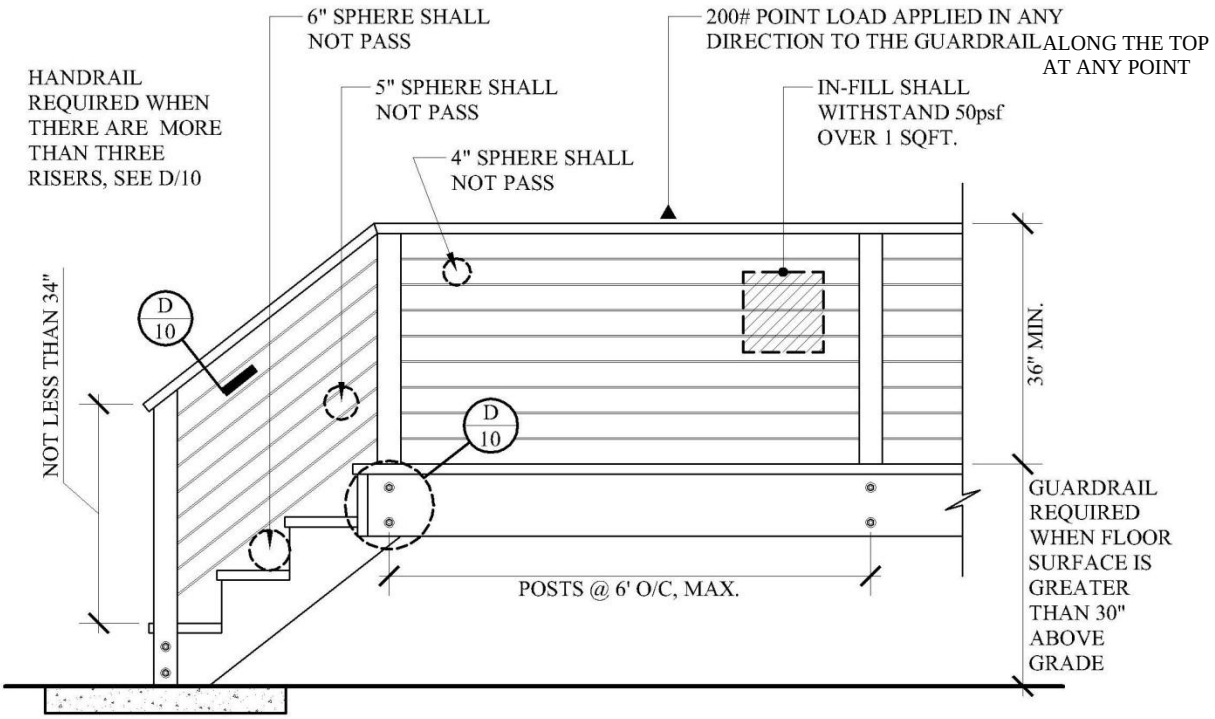
b — mechanical fasteners

ACCEPTABLE JOIST HANGERS*		
MANUFACTURER	SIMPSON	USP
	HU/HUC	HD/HD
	LUC	JL
	LUS	JUS
	LSU (SKEWED HANGER)	LS or TMU (SKEWED HANGER)
*	REFER TO MANUFACTURER SPECIFICATIONS FOR WARRANTED INSTALLATION	
*	ZMAX, HDG, OR STAINLESS STEEL (OR USP EQUIVALENTS)	

c — joist hangers

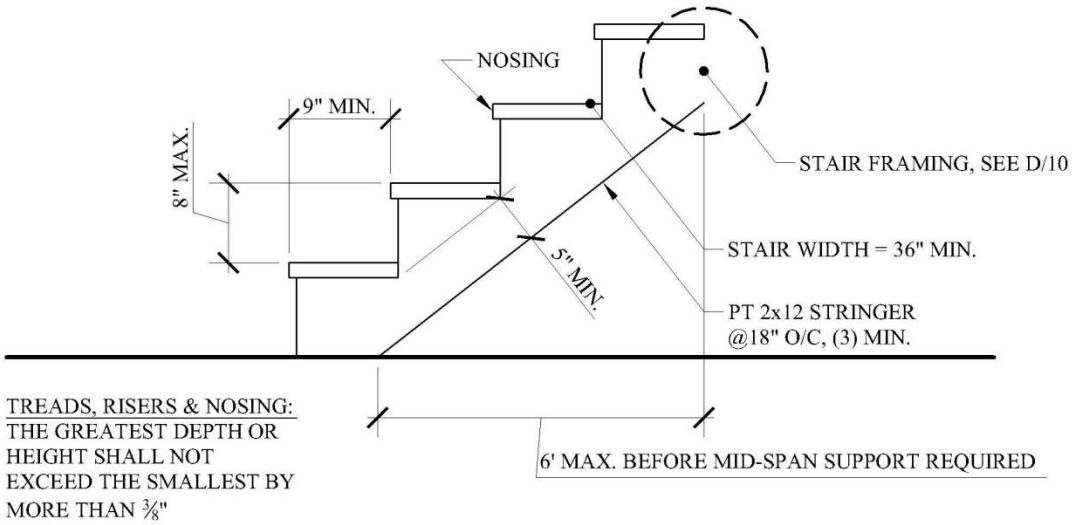
D/8 — joist to beam connection & joist hangers

scale: 1" = 1'-0"



a — nuances

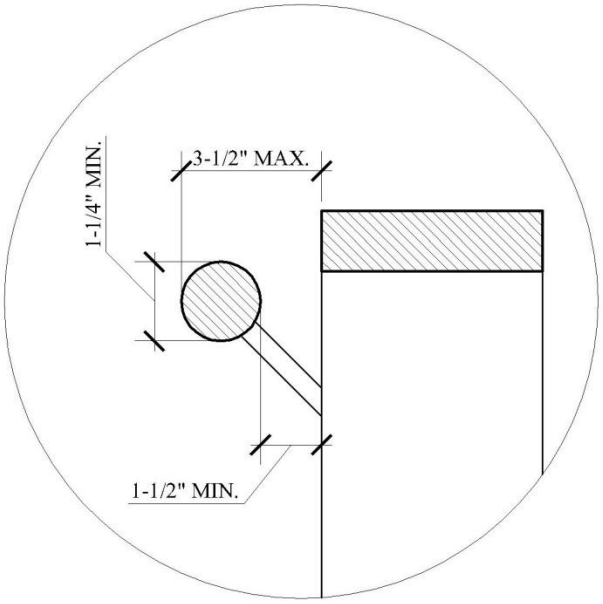
guardrail requirements



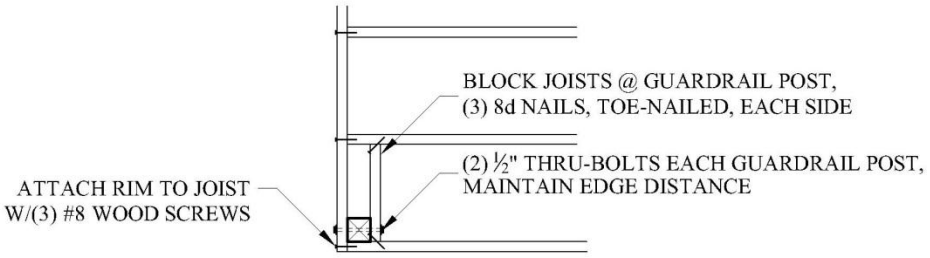
b — treads, risers & stringers

D / 9 — railing & stair requirements

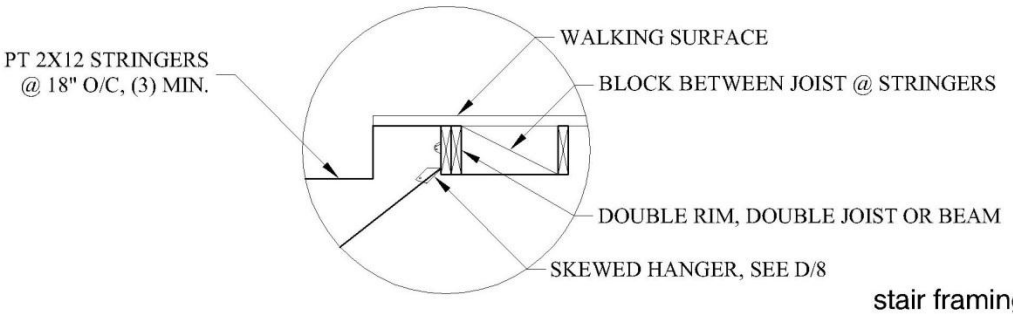
scale: varies



a handrail



b guardrail blocking



c stair framing

D/10 handrails, guardrails & stairs

scale: varies

SITE PLAN CHECKLIST

note: grid is 1" - scale drawing accordingly.

____ Accurate shape & dimensions of lot.
____ Lengths of all property lines.
____ Natural features (creeks, etc.) on or near prop.
____ Elevations at property corners.
____ Contours if property exceeds 4' grade change.
____ Public or private easements, incl. public utility easements.
____ Streets adjacent (alleys, name, location, curb & sidewalk).
____ Driveway location & parking (existing & proposed).

___ Distance of proposed bldg to property lines.
___ Distance of proposed structure to adjacent structures (unless attached). Include structures on adjacent lots if within 15' of proposed structure.
___ Label all existing structures on the property and indicate whether they are to remain or be removed.

SITE PLAN

SCALE: _____

This sheet is included for your convenience; a separate sheet may be submitted with the site plan if preferred.

North
draw arrow in circle

Sheet _____ of